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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/762,981	05/09/2001	Andrea Olgiati	B-4089PCT	1339
22879 7590 10/31/2007 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER MEONSKE, TONIA L	
			ART UNIT 2181	PAPER NUMBER
			MAIL DATE 10/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/762,981

Applicant(s)

OLGIATI ET AL.

Examiner

Tonia L. Meonske

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/30/2007 and 10/27/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 14-18 is/are rejected.
- 7) ☒ Claim(s) 10-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the Appeal Brief filed on July 30, 2007, PROSECUTION IS HEREBY REOPENED. A new rejection has been formulated as set forth below.

2. To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

3. A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:


ALFORD KINDRED
SUPERVISORY PATENT EXAMINER

Priority

4. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in the European Patent Office on June 15, 1999. It is noted, however, that applicant has not filed a certified copy of the European application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 102

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5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1-3, 5-9 and 14-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Webb et al., US Patent by 6,061,749 (herein after referred to as Webb).

8. Referring to claim 1, Webb has taught a computer system, comprising:

- a. a first processor (Figure 4, element 202);
- b. a second processor for use as a coprocessor to the first processor (Figure 4, element 224);
- c. a coprocessor controller (column 12, lines 15-62, Figure 5, at least elements 1030, 1031 and 1032, and Figure 4, element 4, elements 202 and 1022 all comprise a coprocessor controller that controls the coprocessor.);
- d. a memory (Figure 4, element 203); and
- e. a decoupling element (Figure 4, element 1022, column 13, lines 4-7);

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f. wherein computations are passed to the second processor from the first processor through the decoupling element, such that the second processor executes computations passed from the first processor through the decoupling element (column 12, lines 27-35), and wherein the second processor receives data from and writes data to the memory (column 12, lines 15-26), and wherein the coprocessor controller controls the activity of the second processor to ensure execution of the second processor is correctly ordered with respect to loads from memory (column 12, lines 15-62, Figure 5, at least elements 1030, 1031 and 1032, and Figure 4, element 4, elements 202 and 1022 all comprise a coprocessor controller that controls the coprocessor to ensure that the coprocessor is correctly ordered with respect to loads and stores to /from memory.), whereby the execution of computations by the second processor is decoupled from the operation of the first processor such that the second processor executes computations passed from the first processor through the decoupling element while the first processor is providing further instructions to the decoupling element (Figure 4, element 1022 is the decoupling element where the instructions from the CPU 202 are passed and queued up while instructions execute in the coprocessor 224.).

9. Referring to claim 2, Webb has taught a computer system as claimed in claim 1, as described above, and wherein the decoupling element is a coprocessor instruction queue, wherein computations are added to the coprocessor instruction queue by the

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first processor and consumed from the coprocessor instruction queue by the coprocessor (Figure 4, element 1022, column 12, lines 27-35).

10. Referring to claim 3, Webb has taught a computer system as claimed in claim 1, as described above, and wherein the decoupling element is a state machine, wherein information to provide computations to the second processor is provided to the state machine by the first processor, and computations are provided in an ordered sequence to the second processor by the state machine (Figure 4, element 1022, column 12, lines 27-35, Element 1022 is a state machine.).

11. Referring to claim 5, Webb has taught a computer system as claimed in claim 1, as described above, and wherein the second processor is configurable (column 18, line 66-column 19, line 16, configuration and status registers in the coprocessor).

12. Referring to claim 6, Webb has taught a computer system as claimed in claim 5, as described above, and wherein the second processor is adapted to be configured in accordance with a configuration downloaded from the memory (column 18, line 66-column 19, line 16, Configuration information is downloaded into the configuration and status registers.).

13. Referring to claim 7, Webb has taught a computer system as claimed in claim 1, as described above and wherein the first processor is able to switch tasks during execution of computations by the second processor (Figure 4, Since processors 202 and 224 are separated by a queue 1022, then when CPU 202 passes instructions to

1022 for buffering, then the co-processor executes the instructions while the CPU 202 is able to switch to another task.).

14. Referring to claim 8, Webb has taught a computer system as claimed in claim 1, as described above, and further comprising

- a. a buffer memory from which the second processor loads data and to which the second processor stores data, wherein the buffer memory is adapted to load data from the memory and store data to the memory (Figure 6, elements 1040 and 1041 comprise the claimed buffer memory for storing and loading instructions from memory.).

15. Referring to claim 9, Webb has taught a computer system as claimed in claim 8, as described above, and wherein the memory is dynamic random access memory, and the buffer memory is adapted to load data from, or store data to, the buffer memory in bursts (column 14, lines 40-67, a predetermined number of instructions are added to the queue.).

16. Referring to claim 14, Webb has taught a computer system as claimed in claim 8, as described above, and further comprising

- a. a synchronisation mechanism to synchronise transfer of data between the buffer memory and the memory with execution of computations by the second processor (column 14, lines 28-39).

17. Referring to claim 15, Webb has taught the computer system as claimed in claim 14, as described above, and wherein the synchronisation mechanism is

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adapted to block execution of computations by the second processor on data which has not yet been loaded to the buffer memory from the memory, and is adapted to block execution of memory instructions for storage of data from the buffer memory to the memory where relevant computations have not yet been executed by the second processor (column 12, lines 316-62).

18. Referring to claim 16, Webb has taught a computer system as claimed in claim 15, as described above, and adapted such that when execution of computations or memory instructions is blocked by the synchronisation mechanism, other computations or memory instructions which are not blocked by the synchronization mechanism may be executed (column 12, lines 16-62, Subsequent instructions that depend on executing instructions are blocked. Instructions that are not depended on any prior instructions may be executed.).

19. Referring to claim 17, Webb has taught a computer system as claimed in claim 1, as described above, and wherein the first processor is the central processing unit of a computer device (Figure 4, element 202 is a CPU).

20. Referring to claim 18, Webb has taught a method of operating a computer system, comprising:

- a. providing code for execution by a first processor and a second processor acting as coprocessor to the first processor (Figure 4, where element 202 is the first processor and element 224 is the coprocessor);

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- b. identifying a part of the code as providing a task to be carried out by the second processor (column 12, lines 27-35);
- c. passing information defining the task from the first processor to a decoupling element (column 12, lines 27-35, instructions are passed to the queue 1022, column 13, lines 4-7); and
- d. passing instructions derived from said information from the decoupling element to the second processor and executing said instructions on the second processor (column 12, lines 27-35), wherein the processing of said instructions by the second processor is decoupled from the operation of the first processor such that the second processor executes said instructions passed from the decoupling element while the first processor passes further information defining the task to the decoupling element (Figure 4, element 1022 is the decoupling element where the instructions from the CPU 202 are passed and queued up while instructions execute in the coprocessor 224.).

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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22. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Webb et al., US Patent 6,061,749 (herein after Webb) in view of Kim, US Patent 6,052,713 (herein after Kim).

23. Referring to claim 4, Webb has taught a computer system as claimed in claim 1, as described above. Webb has not specifically taught that the decoupling element is a third processor, wherein information to provide computations to the second processor is provided to the third processor by the first processor, and computations are provided in an ordered sequence to the second processor by the third processor. However, Kim has taught such a concept for the desirable purpose of implementing a cellular system (Figure 1, column 4, lines 7-27). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the decoupling element of Webb be a third processor, such that information to provide computations to the second processor is provided to the third processor by the first processor, and computations are provided in an ordered sequence to the second processor by the third processor for the desirable purpose of implementing a cellular system.

Allowable Subject Matter

24. Claims 10-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

26. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tonia L. Meonske whose telephone number is (571) 272-4170. The examiner can normally be reached on Monday-Friday with first Friday's off.

28. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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29. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TLM

A handwritten signature in black ink, appearing to read "Tonia L. Meonske". The signature is fluid and cursive, with the first name "Tonia" being more prominent.

/Tonia L. Meonske/

Tonia L. Meonske

October 18, 2007